

PREPARING HEALTH PROFESSIONALS AND COMMUNITIES FOR THE HEALTH IMPACTS OF CLIMATE CHANGE

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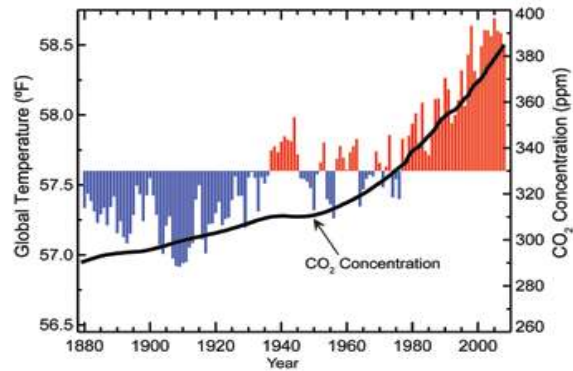
Northwest Environmental Health Conference 2011

Considerations for Today

- What threats does climate change pose towards public health and social services globally, nationally, locally?
- Who will be most impacted?
- Group exercise: What approach would you take given an extreme event scenario?
- What framework can we use to reduce future impacts and prepare for impacts already “in the bag”?
- What are the available tools (national, regional, state, local)?
- Discussion

Climate Change is Happening

- Temperatures are increasing globally and regionally
 - 1.5° F increase in Pacific Northwest
- Human Caused



Global Projections for Change



- **Higher Average Global Temperature**
- **Drought**
- **Heavy Precipitation**
- **Sea Level Rise**
- **Flooding**
- **Increased ozone levels**
- **Change in fire patterns**

Local Projections for Change

- **Temperature**
 - Average annual increase of 2 to 4° F (1 to 2° C) ~ 2040
 - Additional increase of 6 to 8° F (3 to 4° C) ~ 2080
- **Snowpack** likely to decline by 80% by 2080s
- **Fire** likely to increase in eastern parts of Basin
- **Precipitation** falling more as rain and in shorter periods of time
- **Streamflow** heavier in winter and early spring; reduced in summer
 - **Impacts on natural systems:** cold-water species, invasives, vegetation type, ecosystem services, stream flow
 - **Impacts on “community systems”:** health, hydroelectric power, transportation, crops, recreation, emergency and social services, population

Health Implications of Climate Change

Higher Average Temperature

heat illness, skin cancer

Drought

water quantity & quality, nutritional value of crops, mental illness

Heavy Precipitation

mental illness, water quality

Sea Level Rise

migration, water quality & quantity

Flooding

water quality, mental illness, disease breeding grounds

Increased ground ozone levels and CO₂

respiratory disease, asthma and allergies

Change in fire patterns

respiratory disease

Others?

Communicable disease, new diseases, food/water access

Likely Impacts on Local Health

- ↑ Heat stroke and other heat illnesses
- ↑ Food contamination or food-borne illness
- ↑ Skin cancer, eye damage
- ↑ Stress, mental health cases from displacements
- ↑ Vector borne disease outbreaks
- ↑ Asthma and respiratory disease
- ↑ Allergies
- ↑ Exposure to mercury in fish and water
- ↑ Poor nutrition due to reduced agricultural output
- ↑ Crowding, communicable diseases spread
- ↑ Transportation barriers for emergency services, food
- ↑ Water contamination and water borne disease



Population Vulnerability

- What might these impacts mean for vulnerable populations?
- Who are the vulnerable populations in your community?
- How might they be disproportionately impacted by climate change?

Mini Exercise: Scenario

- It is Summer of 2030 during a heat wave
- We are in 5th day of 100+ °F temperatures



Mini Exercise: Questions for discussion

- How do we define a heat wave?
- What are the public health impacts?
 - ▣ Who is likely at greater risk?
- What approaches can be taken?
 - ▣ By Public Health, emergency managers, communities
- What can we do to proactively reduce the impact from future heat waves?

Framework for Change: Climate Mitigation & Adaptation

- Mitigation: reductions in greenhouse gas emissions
- Adaptation: adjustments in natural or human systems in response to climate change conditions or effects
 - ▣ Simultaneous implementation of strategies
 - ▣ Integration with existing programs, staff, funding
 - ▣ Focus both internally and through engagement with public
 - ▣ Unique opportunities for collaboration and grantmaking

Case Studies and Tools

- Public Health Survey (CLI & CLHO 2008)
- *Building Resiliency in the Lower Willamette*: identifies regional impacts and strategies; opportunities for collaboration and co-benefits (CLI 2011)
- Mitigation and Adaptation Guidebooks (CLI & CLHO 2010)

Guidebooks for Public Health



NACCHO Workgroup

- 12 members nationwide, convened in 2007
- Focus areas:
 1. Increase awareness of PH Impacts of climate change
 2. Information Dissemination to LHDs
 3. Advocacy for policies, plans, programs, and resources to support climate change mitigation and adaptation at federal level.
 4. Advocacy for increases in public health funds for climate change
 5. Supporting research on emerging health impacts related to climate change and public health best practice in partnership with CDC, NIH,NOAA

Some key recommendations

- Conduct ongoing health monitoring of climate change impacts on local communities
- Provide opportunities to educate and train public health leadership and the public health workforce
- Build local research capacity and technical expertise within Health Departments
- Educate and empower community members with preparedness information
- Integrate health in all policies



NACCHO Demonstration Sites

- Thurston County, WA: Workforce Development Education and Strategic Planning Activity
- Orange County, FL: Workforce Assessment and Workshop Template for Planning/PH Audience
- Mercer County, IL: Public Messaging about Extreme Heat Events
- Austin, Texas: Using the Environmental Health Indicators Project to identify climate change indicators and begin increased surveillance

Tools and Resources

- A self-assessment tool developed by the Orange County Health Department (Florida) to improve workforce readiness
- An extreme heat public messaging campaign for farmers in the Midwest developed by Mercer County, IL.
- An educational PowerPoint presentation prepared by George Mason University laying out the public health impacts of climate change and the role of LHDs.

Multnomah County Health Department

Climate Change and PH Report:

- Introduction to the public health perspective
- Overviews of the likely effects of climate change in Multnomah County
- Health equity issues related to climate change,
- Public health's role in climate action planning.
- Review of potential public health “co-benefits” and unintended detriments to health that may result from implementing the Climate Action Plan action items

CAP goal area 4: Urban forestry and natural systems												
<i>Area objective – see CAP for detailed action items</i>												
13. Expand the urban forest canopy to cover one-third of Portland, and at least 50% of total stream and river length in the city meet urban water temperature goals as an indicator of watershed health												
Populations most affected												
	CHILDREN	OLDER ADULTS	PROPERTY OWNERS	RENTERS	LIVING IN OLDER HOUSING	ASTHMATIC PEOPLE	PHYSICALLY DISABLED	LOW-SES PEOPLE	HIGH-SES PEOPLE	CITY-DWELLERS	SUBURBAN & RURAL	OTHER
Potential health CO-BENEFITS of CAP action items												
Tree canopy increases property values, increasing household wealth.												
Increased vegetation absorbs more particulate matter, improving air quality.	x	x								x		
Temperature maintenance properties of tree canopy reduce cooling costs and heat-related mortality, improve comfort and productivity in schools and offices.												
Runoff control and healthy water temperature will improve fishing and recreation options, increasing physical activity and nutritional opportunities.												
Increased contact with natural features improves social capital and mental health. ^{18,27}												
Neighborhood greenway/bike boulevard projects increase mobility and physical activity.	x											

CDC Climate-Ready State & Cities Initiative

- Objective: To enhance the capability of state and local health agencies to deal with the public health impacts of climate change
- Grantees
 - ▣ 2 city health departments
 - ▣ 8 state health departments
- Two funding categories



CDC Climate-Ready State & Cities Initiative



Category 1

Assessment and planning to develop climate change programs

CDC Climate-Ready State & Cities Initiative



Category 2

Building capacity to implement climate change programs and adaptations

Oregon's Goals & Objectives

- Goal 1: Educate and train various audiences about climate change, the public health implications, and adaptation measures
- Goal 2: Increase climate change capacity in local health jurisdictions (LHJs)
- Goal 3: Build Oregon's capacity to address the public health impacts of climate change



Adapting Tools for Climate Change Planning and Action

- Hazard Vulnerability Assessment (HVA)
- Health Impact Assessment (HIA)

Hazard Vulnerability Assessment (HVA)

- The systematic identification of potential hazards in the community
- Identifies vulnerabilities & resources
- Foundation to prioritize hazards, potential losses
 - ▣ Natural disasters, technological threats, diseases, etc.
- Enables communities to plan & establish appropriate preparedness measures
 - ▣ Funding needs, linkages to partners, programs, etc.

HVA - Process

- Uses quantitative & qualitative hazard analysis (standardized approach)
 - ▣ What?, How often in the past? How large? How likely in the future? Add model projections.
- Measures vulnerability as risks to people, function of society, critical infrastructure (both business & government services)

Health Impact Assessment (HIA)

"A combination of procedures, methods, and tools by which a policy, program, or project may be judged as to its potential effects on the health of a population, and the distribution of those effects within the population."

(Gothenburg consensus statement; European Ctr. for Health Policy, WHO Regional Office for Europe, Brussels, '99)

- 1) Screening
- 2) Scoping
- 3) Assessment
- 4) Reporting and Recommendations
- 5) Monitoring and Evaluation

Why do HIA?

- ❑ Minimize the negative and maximize the positive health impacts of future projects and policies
- ❑ Raise the profile of health in decision making in other sectors (transportation, land use, etc)
- ❑ Employ a truly preventive approach
- ❑ Promote a holistic definition of health
- ❑ Reconnect health with urban planning
- ❑ Ensure involvement of the community
- ❑ Explicit focus on equity and social justice
- ❑ Health is a shared value!

HIA in other words....

Similar activities

- Community organizing
- Public participation
- Advocacy
- Policy Analysis
- Precautionary approaches
- CBPR
- Risk Assessment
- Community Assessment

Who does it now?

- Nonprofits and advocacy groups
- Local health department staff
- State epidemiologists and researchers
- Health care sector
- Foundations

Potential roles in HIA

Organization	Potential contribution
State governments	HIA training Research, data analysis Epidemiology Connect local health departments with decision makers
Local health departments	Convene and engage community Screen and initiate projects Conduct assessments Disseminate results to advocates
Community advocates Nonprofits Neighborhood groups	Present results to decision makers Testify Ground-truth results

Conducting HIAs on Climate Action Plans

- Eugene Climate and Energy Action Plan (CEAP) (2010)
- Public Health Recommendations Provided By Public Health Expert Group: nonprofits, public, private
- Conducted Health Impact Assessment on Transportation Recommendations

<http://www.sustaineugene.com/eugeneclimate/>



If you only remember 3 things...

- Climate change is a public health issue
- Public health has an opportunity to be a leader
- Resources and tools are available to support action

Those of us working in public health should recognize that climate disruption affects promoting good health for us all. There is an opportunity now for us to lead by example and take some responsibility for the impact on the Earth's climate.

-Dr. Mel Kohn (OHA)